

CLAIMS

1. A method of copying a copy protected optical disc, the optical disc carrying content and control data in a data area, the content being arranged in one or more content files, and the control data providing access to the content, wherein at least one region which contains unreadable or subversive data is provided within the data area, and wherein access to the or each region of unreadable or subversive data is prevented during normal playback of the content on the disc, the method comprising:

accessing the content on the copy protected optical disc by utilising the navigation provided for normal playback of the disc, storing the accessed content in a corresponding data area, and including arbitrary data in any regions of the corresponding data area which correspond to regions containing unreadable or subversive data.

2. A method of copying a copy protected optical disc as claimed in Claim 1, wherein the navigation provided for normal playback comprises navigation paths defined by said control data which access the content on the disc, and wherein there are no navigation paths which provide access to the at least one region of unreadable or subversive data, and the method comprising accessing the content on the copy protected optical disc by navigating to the content utilising the navigation paths.

3. A method of copying a copy protected optical disc as claimed in Claim 2, wherein the navigation paths are mapped to identify regions of the data area which are not accessed by said navigation paths, the copying method further comprising accessing the data area in a linear manner and storing the content therein, but avoiding accessing any region identified as not accessed by navigation paths and storing arbitrary data in place of the content in the corresponding regions of the data area.

4. A method of copying a copy protected optical disc as claimed in Claim 2, the copying method further comprising playing the disc whereby the content on the disc is accessed in a manner determined by the navigation paths, and storing the content retrieved from the data area in a corresponding data area.

5. A method of copying a copy protected optical disc as claimed in Claim 1, wherein the navigation provided for normal playback comprises navigation paths defined by said control data which access the content on the disc, and wherein there are navigation paths which lead to the at least one region of unreadable or subversive data, but such navigation paths are such that they do not provide access to the unreadable or subversive data during normal playback of the content on the disc, and the method comprising accessing the content on the copy protected disc by navigating to the content utilising the navigation paths.

6. A method of copying a copy protected optical disc as claimed in Claim 5, wherein navigation paths defined by the control data are mapped to identify regions of the data area which are not accessed by the navigation paths, the copying method further comprising accessing the data area in a linear manner and storing the content therein, but avoiding accessing any region identified as not accessed by the navigation paths and storing arbitrary data in place of the content in the corresponding regions of the data area.

7. A method of copying a copy protected optical disc as claimed in Claim 5, the copying method further comprising playing the disc whereby the content on the disc is accessed in a manner determined by the navigation paths, and storing the content retrieved from the data area in a corresponding data area to build up an image of the content and control data on the disc.

8. A method of copying a copy protected optical disc as claimed in any preceding claim, wherein the disc is played by an optical disc player to obtain the content of the disc, and wherein the content output by the disc player is stored.

9. A method of copying a copy protected optical disc as claimed in Claim 8, further comprising commanding the optical disc player to play all of the content of the disc such that the copy of the content data is complete.

10. A method of copying a copy protected optical disc as claimed in any preceding claim, further comprising producing a disc from the stored content.

11. A method of copying a copy protected optical disc as claimed in any preceding claim, wherein at least one region of unreadable or subversive data is formed within content files, as an additional content file, or as a gap between two adjacent content files, the method comprising accessing the content files to
5 retrieve their content, and storing the content in corresponding content files.

12. A method of copying a copy protected optical disc as claimed in Claim 11, wherein the content files are video object files and are composed of video objects (VOBs) which are divided into cells, and wherein the cells can be
10 accessed by respective pointers in navigation paths defined by the control data.

13. A method of copying a copy protected optical disc as claimed in Claim 12, wherein at least one region of unreadable or subversive data is formed as an additional cell within a video object, and wherein there are no pointers
15 accessing the additional cell.

14. A method of copying a copy protected optical disc as claimed in Claim 12, wherein at least one region of unreadable or subversive data is formed as an additional cell within a video object, and wherein there are pointers
20 accessing the additional cell but the use of pre commands or cell commands ensures that the additional cell is not played during normal playback of the material.

15. A method of copying a copy protected optical disc as claimed in Claim 12, wherein at least one region of unreadable or subversive data is inserted
25 within a video object, and wherein there are no pointers accessing said region.

16. A method of copying a copy protected optical disc as claimed in any preceding claim, wherein the arbitrary data included in said regions of the data
30 area comprises sectors of zeros.

17. A method of copying a copy protected optical disc, the optical disc carrying content and control data in a data area, the content being arranged in one or more content files, and the control data providing access to the content,
35 wherein at least one region which contains unreadable or subversive data is provided within the data area, and wherein access to the or each region of

unreadable or subversive data is prevented during normal playback of the content on the disc, the method comprising:

reading the content in the data area of the copy protected optical disc in a linear manner, and

- 5 storing the content from the data area in a corresponding data area, but, upon encountering a region of unreadable or subversive data, determining the size of the unreadable region using search techniques, ceasing to read this region, and continuing to copy after the subversive region.

- 10 18. A method of copying a copy protected optical disc as claimed in Claim 17, further comprising producing a disc from the stored content.

19. A method of copying a copy protected optical disc as claimed in Claim 17 or Claim 18, wherein at least one region of unreadable or subversive data is
15 formed within an individual content file, as an additional content file, or as a gap between two adjacent content files.

20. A method of copying a copy protected optical disc as claimed in Claim 19, wherein the content files are video object files and are composed of video
20 objects (VOBs) which are divided into cells, and wherein the cells can be accessed by respective pointers in a program path.

21. A method of copying a copy protected optical disc as claimed in Claim 20, wherein there are no pointers on the disc providing access to the at least
25 one region of unreadable or subversive data

22. A method of copying a copy protected optical disc as claimed in Claim 20, wherein there are pointers on the disc accessing the at least one region of unreadable or subversive data but navigation paths are such that the
30 unreadable or subversive data is not accessed during normal playback of the content of the disc.

23. A method of copying a copy protected optical disc as claimed in any of Claims 17 to 22, wherein the arbitrary data included in said regions of the data
35 area comprises sectors of zeros.

24. Apparatus for copying a copy protected optical disc, the optical disc carrying content and control data in a data area, the content being arranged in one or more content files, and the control data providing access to the content, wherein at least one region which contains unreadable or subversive data is provided within the data area, and wherein access to the or each region of unreadable or subversive data is prevented during normal playback of the disc, said apparatus comprising:

means for accessing the content on the disc by utilising the navigation provided for normal playback of the disc;

means for storing the accessed content in a corresponding data area; and

means for incorporating arbitrary data into any regions of the corresponding data area which correspond to regions containing unreadable or subversive data.

25. Apparatus for copying a copy protected optical disc as claimed in Claim 24, wherein the navigation provided for normal playback comprises navigation paths defined by the control data which access the content of the disc, but wherein there are no navigation paths which provide access to the at least one region of unreadable or subversive data, and wherein said means for accessing the content on the disc comprises means for mapping the navigation paths to identify regions of the data area which are not accessed by said navigation paths, and means for accessing regions of the data area which have not been identified as said regions, in a linear manner, and wherein said storage means is arranged to store the accessed content from the data area into a corresponding data area.

26. Apparatus for copying a copy protected optical disc as claimed in Claim 24, wherein the navigation provided for normal playback comprises navigation paths defined by the control data which access the content of the disc, wherein there are navigation paths which lead to the at least one region of unreadable or subversive data, but such navigation paths have been altered such that they do not provide access to the unreadable or subversive data during normal playback of the content on the disc, and wherein said means for accessing the content on the disc comprises means for mapping the navigation paths to identify regions of the data area which are not accessed by said navigation

paths, and means for accessing regions of the data area which have not been identified as said regions, in a linear manner, and wherein said storage means is arranged to store the accessed content from the data area into a corresponding data area.

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27. Apparatus for copying a copy protected optical disc as claimed in Claim 24, wherein said means for accessing the content on the disc comprises means for receiving the output from an optical disc player, and wherein said means for storing is arranged to retrieve the content from the output and to store the
10 retrieved content in a corresponding data area whereby an image of the content and control data on the disc is stored.

28. Apparatus for copying a copy protected optical disc as claimed in Claim 27, further comprising means for commanding the optical disc player to play all
15 of the content on the disc such that the stored image of the disc is complete.

29. Apparatus for copying a copy protected optical disc, the optical disc carrying content and control data in a data area, the content being arranged in one or more content files, and the control data providing access to the content,
20 wherein at least one region which contains unreadable or subversive data is provided within the data area, and wherein access to the or each region of unreadable or subversive data is prevented during normal playback of the disc, the apparatus comprising:

means for reading the content on the disc in a linear manner;
25 means for storing the content in the data area in a corresponding data area;
means for halting reading by said reading means on encountering unreadable or subversive data in a region of the data area;
means for determining the size of the subversive region on the disc; and
30 means incorporating arbitrary data into regions of said corresponding data area which correspond to said region.

30. Apparatus for copying a copy protected optical disc as claimed in any of Claims 24 to 29, further comprising means for burning the accessed content
35 and arbitrary data onto an optical disc.

31. A method of copying a copy protected optical disc substantially as hereinbefore described with reference to the accompanying drawings.

32. Apparatus for copying a copy protected optical disc substantially as
5 hereinbefore described with reference to the accompanying drawings.